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ABSTRACT

Four essays are designed to provide perspective and dimension to the Stout Data Analysis and to the Business and Education Survey. The essayists who interpret the Stout and survey data represent the viewpoints of (1) business (David Horn), (2) a researcher in vocational education (Orville Nelson), (3) a vocational educator (Albert Pitts), and (4) labor (Daniel J. Van Lanen). Each interpretive essay is divided into four sections. Section I is an interpretation of the Stout Data Analysis that describes what secondary schools have been doing to prepare young people for the world of work. This section describes the range and quality of the preparation of students for work as well as employer judgments and satisfaction and the ability of students to acquire and keep employment. Section II is an interpretation of the data from the Business and Education Survey mailed to approximately 2,500 businesses in Wisconsin in fall 1982. This section includes employer perceptions of the preparation of students for work and the future needs of business and industry. Section III is a summary of the Stout Data Analysis and the Business and Education Survey and a comparison of the data from the two sources. Conclusions based on these data are presented. Section IV is a look into the future and at the changes needed in secondary education and vocational education programs to meet the needs of youth, business, and Wisconsin's economy in 1990 and 2000. (YLB)

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FOUR INTERPRETIVE ESSAYS OF:
The Stout Report and the Business and Education Survey

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Bulletin No. 4118

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FOREWORD

Concern has been expressed over the large number of youth who fail to make a successful transition from school to the world of work and over mounting youth unemployment. The needs of business and industry appear to be outdistancing the ability of secondary schools to perform successfully in their work preparation role. Many business people and educators feel that, unless we start planning now for jobs which will be in demand in 1990, students will not be prepared for work and jobs will not be filled.

It has been, and will continue to be, a policy goal of my administration that every young person should leave high school with the basic academic and job skills needed to become self-sustaining in the world of work. Moreover, while I am deeply concerned about the high unemployment rate, I am equally concerned about the growing mismatch between the skills of the young worker and the changing skill needs of business and industry.

The Department of Public Instruction and The Parker Pen Company, through the Parker Fund of the Janesville Foundation, have taken a necessary first step in planning for the improvement of the work preparation role of Wisconsin's secondary schools. Together we have introduced to Wisconsin the first state level business and education partnership which goes beyond an advisory committee role. This partnership has potential statewide impact on vocational education in secondary schools.

Approximately two-thirds of all young people enter full-time employment at or before the completion of high school. The public schools have the obligation to help assure that these young people can fill the available jobs and make a successful transition from school to the world of work. Secondary schools need to address the concerns of business and the changes in the labor market. From these needs spring the goals of the Parker Project.

Phase I of the project, beginning in December of 1981, was designed to provide the information base necessary to enhance understanding of the present performance of secondary schools, to project future vocational and occupational needs of business, and to support planning and decision-making about needed changes. At that time an information base did not exist upon which an accurate assessment could be made of our secondary schools' capacity to meet the needs of business, students, and society in 1990 and 2000.

This information base of Phase I includes Wisconsin data already collected and available and new data where current information is lacking. Five separate efforts are incorporated into the final report of Phase I. A Review of the Literature (#1) is designed to fulfill the need to identify and summarize other state and national research and literature dealing with the transition of the secondary student from school to the world of work. The Stout Analysis of Wisconsin Data (#2) focuses on the role of secondary schools in preparing youth for the world of work. The statewide Business and Education Survey (#3), mailed to 2,500 Wisconsin businesses, focuses on employer and employee perceptions of high school work preparation as related to current and future needs. Four Interpretive Essays (#4) is an effort to have the Stout and survey data interpreted by representatives from labor, business, and vocational education. Models of Business Education Partnerships (#5) identifies and describes business and education linkages, cooperative arrangements, and partnerships. The Summary of Phase I: What Is (#6) provides information from each of the five products.

This examination of the current role of secondary schools in Wisconsin and the needs of business and industry was an essential first step in planning for improvement in the role of our secondary schools in the preparation of youth for the world of work.

The six products of Phase I will be disseminated to business groups, educators, secondary schools, the VTAE system, colleges and universities, community and civic organizations, labor, and other policy and decision makers. The planning and goal-setting for Phase II cannot be accomplished until there is an understanding of the current perceptions and practices in Wisconsin.

Phase II began in April of 1983 and is designed to provide a forum for the determination of "What Should Be" for secondary education. The assessment of Wisconsin secondary schools and vocational programs and policy planning and recommendations will be the result of this phase.

An initial step in Phase II is A Futures Symposium - Youth, Work and Economic Productivity: Wisconsin at Risk, planned for the fall of 1983 to generate futures thinking and goal-setting and to create a consensus on the role of secondary schools in preparing youth for the world of work and for economic productivity. People from labor, business, education, and government who are knowledgeable about trends, changes and needs of the future will be selected for this planning process. State and regional futures conferences will bring the same groups and decision makers together, late in 1983 and 1984, to hear futures speakers and address the future of secondary education, vocational education, business and education partnerships, economic development, and the effects of technology, statewide and regionally, on preparing youth for the world of work.

Phase III, the concluding phase of the Project, will review state policy initiatives, expert thinking and secondary school assessment; and lead to policy development, review, approval and ultimate implementation.

While the Parker Project is addressing the transition of the secondary student from school to work, several factors cause a sense of urgency. First, the public is concerned about the role of education in general. Questions about the quality of education have brought about an apparent crisis of confidence in public schools. Second, the challenges, problems, and opportunities facing our society suggest that the end of the 20th Century will be a period of dramatic change in business, industry, and society. Secondary schools and vocational education will need to keep abreast of these changes if Wisconsin's economy is to keep growing and remain competitive.

Our young people belong in school. With a more meaningful education brought about through the relevance of academic learning to the world of work, more young people will choose to remain in secondary schools. The schools of the future, I believe, will need to stress the basic skills to build the intellectual base needed for future job retraining and changes in employment demands. The schools will need to provide young people with the knowledge that will help them to better understand the needs of their work place and their communities.

Through the Parker Project, we intend to identify the needs of the students, industry, and education and bring them all together into a cooperative working relationship that can enhance the lives of our young people, provide for a more stable, productive state economy through a better prepared labor force, and help insure a more knowledgeable, optimistic, and aware citizenry.

Personally, I am optimistic about the future productivity of our state economy and the future role of our secondary schools in effecting a transition of youth from school to the world of work. The Parker Project is central to this effort and the cooperation and leadership of George Parker, chairman of the board of The Parker Pen Company, has been crucial. Our youth, educators, business and industry, and I are indebted to him. Indeed, we hope this example of leadership is only a beginning for a long and fruitful partnership of education and business and industry in the years to come.

Herbert J. Grover
State Superintendent of Public
Instruction
September, 1983

INTRODUCTION

The Four Interpretive Essays are designed to provide perspective and dimension to the Stout Data Analysis and to the Business and Education Survey. While the Parker Project was the principal vehicle for collecting and assembling the data, the Parker Project Advisory Committee felt that various perspectives were needed to make some initial interpretations of the data and to relate the data to Wisconsin's future for secondary schools and vocational education programs.

Four essayists were recommended by their peers, other professionals, for this task. David E. Horn, manager for training and development at the Kearney and Trecker Corporation represents the business perspective. Orville Nelson, co-director of the Center for Vocational, Technical and Adult Education offers the viewpoint of a researcher in vocational education. Albert Pitts, director of vocational education in the Racine Unified School District, writes his essay as a long-time vocational educator and leader at the local level. Daniel J. Van Lanen, a teacher of secondary school English, is the Union representative of the Wisconsin Education Association Council.

The original essays ranged in length from 30-50 pages and were heavily edited to assure a summary document that would be manageable in length and consistent in format. The abstracted essays of this publication have been reviewed by each author to insure that all major topics, points of view, or themes were still included.

It is important to note that the essays are based upon two sources of data: the Stout Data Analysis which focuses on the current and past role of secondary schools in preparing youth for the world of work, and the Business and Education Survey which offers the perspectives and needs of the business community in Wisconsin. The essayists wrote from these two documents and from their own experience. A separate summary analysis of the Stout Data Analysis and the Business and Education Survey are also part of the Parker Project's publication series.

Each interpretive essay is divided into four sections: Stout Data Analysis, Business and Education Survey, Combined Summary Analysis, and Where Should We Be Going?

- Section I: Stout Data Analysis is an interpretation of the Stout Data which describes what secondary schools have been doing to prepare young people for the world of work. This section not only includes a description of the range and quality of the preparation of students for the world of work, but also provides a description of employer judgments and satisfaction and the ability of students to acquire and keep employment.

- Section II: Business and Education Survey is an interpretation of the data from the Business and Education Survey mailed to approximately 2,500 businesses in Wisconsin in the fall of 1982. This section includes employer perceptions of the preparation of students for work and the future needs of business and industry.

- Section III: Combined Summary Analysis is a summary of the Stout Data Analysis and the Business and Education Survey and a comparison of the data from the two sources. Conclusions based on these data also are included in this section.

- Section IV: Where Should We Be Going? is a look into the future and at the changes needed in secondary education and vocational education programs to meet the needs of youth, business, and Wisconsin's economy in 1990 and 2000.

The Four Interpretive Essays, the Stout Data Analysis, and the Business and Education Survey use the terms completers, participants, non-participants, and non-completers to describe the amount of schooling and the amount of vocational education experience acquired by secondary students. With this type of division of students, comparisons can be made between the groups in regard to job satisfaction, employability, wage earnings, attitudes toward work, etc. While this comparison can yield useful data for schools looking at needed changes for the future, the terms must be first commonly understood. A brief definition of each used in these data follows:

- Completers - Students in this category have taken a sequence of vocational education courses including a senior-level vocational course which prepares them for entry into employment or advanced vocational training.

- Participants - Students in this group have taken one or more of the courses in a vocational education sequence but have not completed the senior-level course or experience. Also, they may have taken one or two courses from several different vocational areas.

- Non-participants - This category includes all students who have not taken any course in a vocational sequence. However, they may have taken one or more of the general education courses related to one or more of the vocational fields. For example, they may have taken industrial arts or general home economics.

- Non-completers - This group includes those students who left high school before they completed the requirements for a high school diploma.

General summary conclusions regarding the preparation of youth for work in our secondary schools, the needs of business and industry, and the future for Wisconsin in its search for the partnership needed to assure employability for all young people will not be drawn in this publication. These conclusions are left for the reader, the participants of the Futures Symposium, the State and Regional Futures Planning Conferences, and the policy makers of the state of Wisconsin. It is the hope of the Parker Project that these four Interpretive Essays will give the reader an array of facts, insight, and the inspiration necessary to explore further the changes needed for our schools in the world of 1990 and 2000.

Charlotte M. Oinonen
Director, Parker Project
September, 1983

AN INTERPRETIVE ESSAY

by
David E. Horn
Manager, Training and Development
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Milwaukee, Wisconsin

SECTION I: STOUT REPORT

Scope and Quality of the Preparation for the World of Work Offered by Wisconsin's Secondary Schools in 1970 and 1980

During the same period of time that business and industry were actively holding meetings, establishing partnerships, and working to open communication channels with educators, most school systems were, in fact, offering the needed vocational programs, actively trying to improve facilities, equipment, and materials, and in general, expanding the availability of vocational programs to a greater proportion of students. However, it appears that the increase in subject areas and students was not in proportion to the increase in teachers. That is, not enough vocational educators were being developed.

Nor is there information regarding the quality of the programs, or if changes in K-9 student and teacher vocational awareness programs have occurred. The latter issue is an area that business and industry see as playing a key role in helping high school students make intelligent career choices. More facilities, teachers, equipment, supplies, and students do not automatically mean that a more qualified student is being produced. Hopefully, a competency-based approach to vocational education over a period of years will, in the future, provide a means to measure changes in the quality of vocational programs.

Employer Judgments of Secondary School Performance in Their Work Preparation Role

Business and industry have stated over and over again that competencies in basic academic subjects are extremely important and should be prerequisite to vocational skill development. It should be noted that employers expect to train new employees in the technical aspects of their business, but they do not expect to, nor feel they should, teach academic subjects of a remedial nature. This is clearly the educational community's responsibility. The current trend of increasing the graduation requirements in the areas of math, science, and reading is applauded by the business and industry community and should be enforced on a statewide basis.

The business and industry community fully realizes how rapidly technology is changing the workplace and has communicated its concern to educators. Employees, in any discipline, are required to explore and understand the "know-how" or "technical means" to expand their own and their company's potential and must also understand the interrelationship of the four major areas of technology (manufacturing, construction, communication, and transportation).

Career Education and Guidance Counseling

I was amazed at the high percentage (44%) of students who hope to enter occupations that do not require more that a high school education. This unrealistic perception of what is really needed in the world of work shows that the interrelationship of technology to education has not been adequately taught. The data also reinforces my own opinion that counselors spend the majority of their time counseling college-bound students. Position descriptions of counselors should require an equal effort for students seeking vocational careers.

Moreover, if technology could be introduced at the primary level, more students would see where they fit into the world of work and would be able to make knowledgeable career decisions. This approach would have a positive impact on the growth of vocational education in Wisconsin.

Career exploratory programs also seem to be an effective tool for helping inquisitive young minds narrow their career decisions. This philosophy should be expanded to all districts. The data does not explain why the Wisconsin Career Information Service (WCIS) is not used in all school districts. It appears to be an excellent service to students, and from industry's viewpoint, should be available to all.

School District Ability to Provide Vocational Education

Special needs students (at both ends of the spectrum) continue to be a problem area for vocational education. The data indicates that only in the larger systems can a special needs student get some job entry skills.

Students who, through no fault of their own, attend smaller school systems, are apparently at a disadvantage when it comes to being able to complete a fully sequential vocational program. Some systems apparently do not choose to, or cannot make available to their students, the resources of VTAE, or share programs with other secondary districts by contracting. This implies that business and industry should be looking to the larger school systems to provide the best prepared job applicants. From an industry standpoint, however, it is questionable whether even the large systems should attempt to keep pace with technology when it comes to facilities and major equipment.

If it is true that most vocational education students take jobs within 20 miles of where they went to high school, then maybe the smaller systems do not need to increase business and industry participation. However, if job placement statistics start indicating a trend of rural students migrating to large metropolitan areas for jobs, then the smaller school must start getting more input from other than local business and industry. A statewide sharing of business and

industry needs and expectations should be a major goal of the Wisconsin Department of Public Instruction.

There is a direct correlation between the increase in the number of students enrolled in vocational education programs and the increased number of vocational education areas available to them. This reinforces the contention of business and industry that the traditional approach of teaching wood shop, metal shop, etc., may have become obsolete. A more varied approach that exposes students to, and interracts with, all aspects of technology may be the best method of "turning more students on to vocational education."

Job Placement and Work Experience

The data on job placement services was about what I thought it would be. Business and industry would prefer that young people be taught (as a graduation requirement) how to apply for a job; how to present themselves in an interview, and that it is each individual's responsibility to seek out jobs and sell themselves to employers. High school counselors should not be intermediaries for students. The posting of openings is fine, but doing the students' work for them should be curtailed. Most business and industry leaders feel that students should not be released from school just because there is a job available. Only students in a bonafide work-study program (co-op) should be allowed to spend time in a co-op employer's career prep program. The co-op work experience program is accepted by business and industry. It helps students bridge school-to-work problems. These co-op programs should be expanded whether federal funding is available or not. Poor achievers and potential drop-outs should not be given this opportunity. Only those students who are academically qualified should be eligible.

Business, Industry, and Education Linkages

It is also interesting to see that the perceived level of business and industry participation in vocational education has stayed the same. This points out two things: 1) the positive things that business and industry have done and are doing today (over and above what was done ten years ago) are not being communicated properly or are not being perceived as being helpful to vocational educators; 2) much, much more participation is needed by industry to truly improve the scope and quality of vocational programs. It is my opinion that both are true!

Industry people who work hard and close with education seldom receive any recognition from the vocational education system. Their efforts tend to stay within the walls of one specific school or system, or one specific teacher's program. Business and industry's efforts many times are not even communicated among the various disciplines within the same school. Many innovative ideas and models are, therefore, buried at the local level. This becomes very frustrating to the business people who feel that these ideas and methods could be utilized to improve all vocational education in Wisconsin. Every effort must be made to keep business and industry from being frustrated.

Without timely recognition and quick action by Wisconsin educators on industry's recommendations, it will be very difficult to expand business and industry participation in the future.

Ability of Secondary School Students to Keep Employment in the First Five Years

Completers of vocational education programs have a much higher employment rate and feel satisfied with their jobs as a whole. This is very significant from an employer's point of view. Retention of a skilled workforce in a normal economy is a major concern of all business and industry. Employers, therefore, would be wise to recruit completers of capstone vocational programs; not only for improved retention, but also to reduce training costs and to create better job attitudes.

Employer Satisfaction

The Milwaukee partnership program experience shows that the most successful programs are those that do not include financial commitments on the part of business and industry. Most of the programs listed in the survey as being good collaborative efforts can be done without major financial commitments by business and industry. Educators must be shown how business and industry supports education through its tax dollars and by giving jobs to the products of education, which in turn pay taxes to support future education.

I was somewhat shocked to find out that 48 percent of the districts do not use business and industry people on advisory committees. Active advisory committees, made up of and chaired by local business and industry leaders, is the only way in which education can become a true partner to the business community. All the other types of partnership activities will eventually evolve from a good advisory committee structure. However, for advisory committees to grow and be effective, education must be willing to implement committee recommendations.

The fact that employers feel high school graduates have adequate entry level skills and attitudes should not be construed as an endorsement for keeping the system status quo. Many improvements are indicated as necessary to increase the employability of high school vocational graduates. Most of the employers feel as I do, that vocational students need to place more emphasis on the academic base subjects, such as math and English skills, and must develop a more realistic awareness of the world of work.

Competency report cards, uniform in style and format, which clearly indicate each individual's preparation, graded against a standard would make the work of business and industry employment officers much easier and create a willingness to hire vocationally prepared students. Competency standards must be kept high and be universally applied or the system will fail.

Occupational, Job-Related, and Personal Skills Needed for Initial Employment

Students need to see the relevancy of academic studies to some practical or vocational application, and employers tend to feel basic academic skill competency is more important to employability than specific occupational skills. The combination of good academic skills plus vocational skills produces the highest level of employability.

Computer literacy is fast becoming a more important employabilty skill. Wisconsin's Department of Public Instruction should take steps to make a basic computer course mandatory for all high school grads. The DPI should also consider making computer training a prerequisite for all advanced vocational programs.

There was no data collected on the social impact of the findings of the study. However, I feel it is something that needs to be studied and communicated to parents and teachers. The fact that automation creates more jobs than it replaces is well documented, but for the first time in our history, we are producing machines that can think. The implications are simple. There will be no place in the world of work for young people who are poorly educated. In the past, these people were put on assembly lines, high production machines, or heavy manual labor. Today's technology has taken the human factor out of these jobs and has created jobs that are high in thought content. Education must address what to do with potential dropouts and the lower 25 percent of students who traditionally took these jobs. Education must take steps now to prevent a major social problem in the years to come.

Characteristics of Completers, Participants, Non-Participants, and Non-Completers

Most high schools approach vocational education as "hobby classes," not as career development programs. Until this concept is changed, business and industry will have to look hard and long for those few completers who are the best qualified candidates for jobs.

As the technology of business and industry changes during the '80s and '90s, a definite shift in the definition of a vocational student must take place. Vocational program candidates will need to have prerequisite preparation similar to academic students. The concept of "if a student cannot perform academically or is a troublemaker, put the student in a vocational program," must be changed! Vocational education must set its sights higher in order to attract a better caliber of student if it is to succeed. If there are no academic prerequisities to enter vocational programs, then they will continue to attract students with poor academic preparation. Until vocational education sets the standards of excellence for students entering its programs, academic educators will continue to consider poor academic performance as an aptitude for vocational education. The image of vocational education among educators must be improved.

If business and industry is to offer equal employment opportunities to graduates, then much more must be done by the educational community to close the gap between competency levels of its minority and female population and that of its white male population. This task, on top of raising the competency level of all vocational education students, indicates that additional emphasis and funding is necessary at the secondary level.

SECTION II. BUSINESS AND EDUCATION SURVEY

I got the distinct feeling that, finally, all of the data on the "problem" has been gathered in Wisconsin, and we now can concentrate our efforts in finding solutions. Business, industry, education, the media, and the public all have been preoccupied with pointing fingers and laying blame for too many years. Everyone involved knew there were problems; but no one, until now, had all of the facts at their fingertips. I feel, as this project moves into its next major phase, that everyone who has had some input in identifying problems will learn a great deal from the results of the survey. They will see that the project is designed to address the concerns of both employers and educators and that it is truly everyone's responsibility to search for solutions.

I would suggest that much more emphasis be placed on educating business and industry leaders to change some of the complacent attitudes that exist and to show that involvement can produce change. Too many Wisconsin business leaders have chosen to ignore or are not aware of the fact that a major factor responsible for the extraordinarily high productivity of our foreign competitors is the high quality of their primary and secondary education systems.

Business and Education Partnerships

Sixty-one percent of the respondents to the survey are not linked to a local high school or system. If this is true, then business and industry cannot point fingers at educators and say, "You aren't giving us what we want." One of the major results of a business/education partnership is the opening up of communication between the two parties. Business cannot isolate itself, cease to interact with education, and vice versa. If business and industry are to survive in Wisconsin, they must understand why it's in their own best interest to become partners with secondary vocational education.

Partnerships must be developed that define what the role of secondary and post-secondary vocational education is. The ultimate partnership will occur when business and industry, secondary vocational education, and post-secondary vocational education all work hand-in-hand to develop a comprehensive sequential K-14 program.

The need for the VTAE post-secondary system to promote what they can do for employers is obvious. However, if secondary vocational education can produce a better product in the years to come, the remedial training budgets of both the employer and the VTAE system could be drastically reduced. Employers and the VTAE system can then concentrate on advancing the technical knowledge and skills of high school graduates.

It would have been interesting to know how many businesses have been involved with vocational education advisory committees, or felt they had an up-to-date understanding of the Wisconsin secondary vocational education system. All this causes me to wonder how business and industry can become better informed in the future. This could be a major factor in the success or failure of creating strong partnerships statewide.

Not enough of our employers, however, have been briefed on modern innovative programs that address all the concerns of employers and break from traditional approaches (e.g., the Wild Rose technology education model). If these same employers were to compare today's traditional programs with the Wild Rose model, I am positive they would rate traditional programs lower. Employers need to be given a complete orientation to show them how all items can be linked together to provide a comprehensive K-12 technology education program statewide in the future. Once this is accomplished, the majority of the employers would endorse the concept and also become disciples to spread the word that Wisconsin's secondary vocational education programs are modern and up-to-date.

Employer Satisfaction

Larger companies may be able to employ a less qualified person only because they have taken steps to provide remedial training "in-house." I would state, however, that these larger companies would prefer not to have the burden of this extra expense and feel secondary education should be responsible for most of the basic skills and academic competencies. Business and industry would rather direct its efforts toward providing specific technical skill training and specialized academic courses for its employees. Smaller industries may look for an entry-level graduate who is a little better qualified only because the nature of the work is more varied. In a small business, employees must be flexible and solve problems on their own. Also presidents and managers are closer to employees in a small shop, which suggests that their data may be more accurate as compared to larger manufacturers.

A sloppy attitude will result in sloppy attendance and work habits; which result in a poor-quality product; which decreases productivity (quantity output); which requires supervision of discipline; which ultimately results in the worker losing his/her job. If sloppy attitudes and work habits are conditioned into young minds at the primary and secondary level, employers can only expect to have more and more turnover and quality problems in the future. Employers and educators must set their sights higher and demand more from our employees and students if American business and industry is to survive. If the mission of secondary vocational education is to prepare young people for the world of work, then we are doing a disservice to our students and the state's employers if we do not make sure all students are aware of the employability skills. These three items (willingness to improve job skills and advances, understanding the value and importance of work, and avoidance of personal illnesses) should be put on the agenda of every advisory committee in the state, and existing partnership programs should work hard to bring employers and students closer together.

Because unskilled employment and employment in a vocational career ladder position are not differentiated, the survey results could give the false impression that employers are willing to hire dropouts and poorly prepared graduates in entry-level jobs leading to highly skilled or highly technical positions. Caution should be exercised in reporting statistics on the employability of dropouts and poor performers!

In the past ten years, I have heard and have given talks all over the state which called for improved spelling; ability to learn new skills; math ability; communications skills; computer literacy; ability to interpret engineering drawings; understanding of business economics; knowledge of physical science principles, and problem solving and decision making abilities. The data is clear. We must now move ahead to implement these changes. We must not spend another decade discussing the problem.

Business and Industry Hiring Practices

Employers who have been accusing education, may themselves be sending a wrong message to the public and to educators through their hiring practices. If there are employers who have no educational requirements for entry-level jobs, then these employers are guilty of saying to our youth and their parents, teachers, and counselors that high school is not important; it's okay to drop-out; grades and academic preparation are meaningless, etc. This philosophy becomes a goal of many students. I have heard potential dropouts say many times, "I don't have to go through all of this hassle to get a job" or "I can earn $5.00 an hour; why should I stay in school?"

Even employers who simply say they require a high school diploma can be questioned. How many have really taken a good look at what a high school diploma means today? If employers want more emphasis on academic subjects, then why do only 10 percent of those same employers require some specific level of science or math for their jobs? Employers need to start setting goals for students through their hiring practices. Position descriptions must state that secondary preparation is important. Want ads should portray the importance of secondary preparation; job requests to counselors and Job Service people should include the specific preparation required at the high school level. Last, but not least, employers must keep their standards for employment high and simply stop hiring poorly prepared students.

Summary

Business and industry have expressed, through their responses to the survey, that Wisconsin secondary schools need to change. Basic skills must be stressed. Employers feel that physical facilities, tools and equipment are, for the most part, in place, but the traditional approach to utilizing these facilities and new approaches must be explored. Most employers found it difficult to find the caliber of applicant they would prefer. This creates a situation where employers must either hire applicants who require much additional training (much of it remedial in nature) or develop automated systems to replace the human element in their businesses.

A thread that ran through the entire survey was the need for our young people to get a much better knowledge of how business operates, the American economic system, and how to seek, apply for, interview, and retain employment.

A statistican can compile and summarize specific employer concerns from the data collected. However, I can state that the data simply substantiates that it is not just a few employers who would like to see a change take place in Wisconsin.

The survey results clearly indicate what kinds of changes must take place to make students more employable, and also identifies those things that graduates or dropouts are currently doing that cause them not to be hired initially or to lose their jobs after a short period of employment. With this information, curriculum planners should be able to design a comprehensive secondary vocational education program that truly prepares our youth for the world of work.

Conclusions Based on the Business and Education Survey Data

Before making my conclusions on this study, I want to say I found many positive things that vocational educators are doing in Wisconsin. I am a supporter of secondary vocational education and feel its leadership is currently doing a fine job. Evidence of that leadership is shown by the fact that DPI had the courage and foresight to take a critical look at themselves through the Parker Project. Now for the conclusions:

1. More cooperation is needed from Wisconsin business and industry. More cooperation from the Business community will result in policies and practices that will not allow secondary vocational education to become outmoded. More cooperation would produce positive results for secondary education for students and for employers.

2. Better program coordination, career guidance, evaluation, competency documentation, and student followup is needed. Career awareness and exploratory experience programs must be improved and expanded, not only for students but for teachers and counselors.

   There are enormous problems and political implications in establishing mandatory statewide competency standards, reporting policies, and student follow-ups. But, if Wisconsin's objective is to establish a system that will make sure our young people come out of the secondary system with attitudes and skills that complement the needs of the private sector, then the State Superintendent must be willing to deal with the problems and aggressively work to solve them. Without statewide uniform standards, uniform data collection, and uniform reporting systems; educators, students, parents, and employers will continue to be confused regarding how effective secondary vocational education is in Wisconsin.

3. A better communications system from education to business and industry is needed. A key to increasing partnerships is talking to and with business and industry on a regular basis. Model partnerships must be promoted to both education and business and industry on how to develop cooperative arrangements.

4. There is a correlation between the level (amount) of vocational education and employability. Employers and employees all agree that those individuals who completed a full sequence of vocational courses had a distinct employment advantage and tended to be more satisfied or secure.

5. Employers need to be consistent in their hiring practices in order for the system to work. A clear definition of what employers expect is now in place. Curriculum and competency standards can now be established. Employers must work hand-in-hand with education so that actual requirements for hiring are not different from vocational programs or competency objectives. In other words, employers must be willing to practice what they preach.

6. Secondary vocational education can no longer be viewed as a program that only provides manipulative skills training. Educators must design a K-12 comprehensive vocational education plan that introduces the world of business and industry at the elementary level and gets increasingly more technical as the student progresses.

7. Employers want to know the competencies of individuals coming out of our high schools. Employers would like to make employment decisions on objective data. Standardized individual competency charts seem to be what employers want.

8. A greater emphasis must be put on meaningful work experience as part of a comprehensive vocational education program. Bonafide cooperative work partnerships that are linked to the total vocational education program are very beneficial to the future employability of our students. Special emphasis must be put on educating employers so that more partnerships can be developed and thereby more students can receive this important training.

9. More affirmative action is needed to make females and minorities fully aware of their vocational options. Females and minorities are presently an untapped resource in our state. Secondary vocational education must make efforts to develop this resource so that employers can truly give equal employment opportunities to all the state's graduates.

SECTION III. COMBINED SUMMARY ANALYSIS

Current Role of Secondary Education, Vocational Education, and Work Experience in Wisconsin

There seems to be some confusion as to the meaning or role of secondary education in Wisconsin. Even more confusion is apparent in its relationship with the primary grades. There is an apparent lack of a central mission among vocational educators statewide. Different systems, schools within a system, and even teachers within a school have varying definitions of the goals for secondary educational vocation. Compound this confusion with employer and public perceptions, and it becomes clear that a meaningful statement of mission is required. The role and mission may be fully understood by the State Superintendent and key people under him in DPI, but the mission gets foggy as it moves out to the local level, even foggier when left to an employer to define.

Secondary education in Wisconsin has played a minor role in the state's vocational training effort to date. Traditionally, Wisconsin has counted on its post-secondary program to do the job. This is changing, and employers feel secondary education has an important role to play in a comprehensive vocational education plan. Over 60 percent of our students do not go on to post-secondary education which indicates that Wisconsin needs to make a bigger effort to provide these youngsters skills that will make them employable. The system works, but only for those few who complete fully sequential programs (as evidenced by employment statistics for completers).

In summary, secondary vocational education is currently doing many things well. However, the questioning of some of its efforts and listening to the recommendations of employers in an effort to redefine goals and objectives is a very healthy attitude on the part of DPI and should result in real change.

Current Role, Needs, and Perceptions of Business and Industry in Wisconsin

Business and industry have clearly stated their needs to the educational community. A basic perception, however, is that tangible change to meet these needs will take a decade to implement. The survey results alone may not be communicated to educators and the public until the mid-80s, and we will be caught up in the politics of the system for many years to come. Then only a "recommended guideline" will be published and sent to sit on some local administrator's desk for years after that. The perception is that the State Superintendent will not be able to set new standards and policies statewide. Therefore, real change will not impact employment in this century. All business and industry studies point to a shortage of skilled workers in the near future. Wisconsin is trying to attract "high tech" companies into the state. These companies, by definition, employ a highly skilled and well-educated workforce. Wisconsin will not be ready to produce the needed prerequisities to employment (as defined by the survey data) unless it takes immediate and drastic action to implement a "new direction in vocational education." This also means having the courage to scrap outmoded, traditional approaches. It also means not certifying teachers who refuse to implement these changes, and it means a new direction in teacher education.

Current Needs and Perceptions of the Student and Society

Society has produced an attitude of setting goals too low! Many students look at the "minimums" needed to graduate. This then becomes their goal, and if attained, they feel satisfied. This attaining the required "minimum" attitude is then passed on to the workplace and into American products. Students have shown they <u>can</u> attain higher levels when the goal is set higher. Secondary vocational education must, therefore, establish prerequisities for students and set competency levels that are comparable to actual workplace conditions, not simply minimum competency levels.

SECTION IV: WHERE SHOULD WE BE GOING?

Nineteen ninety is only six years and a few months away! The changes suggested in both the Stout Report and the Parker Business and Education Survey are numerous and complex. Change is always hard to deal with, and education has not been quick to react to change in the past. Therefore, to realistically expect educators to absorb all this change material and to actually implement the needed changes and have the system functioning by 1990 is, in my opinion, unrealistic.

However, knowledge will be the state's most valuable resource, and a better educated workforce will be the prerequisite to future business and industry growth and success in Wisconsin.

Our foreign competitors presently are educating their future workforces on "future terms," looking to 1990 and beyond in all program planning. Wisconsin industry, through this data, is urging, even begging, Wisconsin educators to share the "sense of urgency" and to recognize that neither traditional vocational education nor basic academic programs are providing the kind of career preparation our students need for the jobs of the future. This employer data shows the need to expand the scope of both vocational and academic programs.

Industry, if approached properly, could begin to play a more active role in the educational system. Their assistance should be welcomed with open arms, not only because it will help programs become more realistic, but also because many school systems are now beset with budget woes which, if industry does not step in, will result in many vocational programs being dropped or reduced. Educators must realize that industry does not have vast, untapped treasures to invest in education, but industry would be willing to work with education to find innovative solutions to producing the highly competent and motivated workforce that is needed. Without this help from business and industry, our educational system will deteriorate and shortly thereafter, all business and industry will also feel the effects and start to deteriorate THEMSELVES! **Working with education is the prerequisite for business and industrial growth in Wisconsin.**

The data is in, the problem has been defined, the need and expectations of Wisconsin business and industry have been expressed. The ball is now in education's court. Wisconsin must have the courage to act quickly and decisively to implement these needed changes. Industry has done its part to get things moving and has, therefore, become a partner to education. It is important that we work together as partners, forgetting the past and, instead, be future-oriented in our planning of the programs and policies so that the young students entering school today will start getting an education that will be useful and relevant to them by the time they graduate from high school.

AN INTERPRETIVE ESSAY

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SECTION I: STOUT REPORT

Scope and Quality of the Preparation for the World of Work Offered by Wisconsin's Secondary Schools in 1970 and 1980

Vocational education improved and expanded in Wisconsin's secondary schools during the decade of the '70s. Facilities and equipment improved, programs were expanded into new areas, and the proportion of the student body enrolled in vocational courses grew. Students' access to a variety of vocational courses, however, depends upon the size of the school district they attend. Students in small school districts have less access to vocational programs which offer job-entry preparation. This is true whether one considers in-school programs, shared programs with other secondary districts, or contract agreements with VTAE districts.

The growth of auxiliary services such as counseling, career education, and placement is not as dramatic as the growth in vocational programs. While there is a slight increase in support services, it is also evident that there is a lack of adequate balance in the types of support provided. Counselors spend an extensive amount of time involved with individual counseling on personal problems, assistance with completing application forms for post-secondary educational institutions, and general paperwork. Relatively little emphasis is given to placement. There is also evidence that counselors tend to channel students with below average academic ability into vocational courses and discourage those with above average abilities from enrolling in these programs. This phenomenon has been observed during school evaluations and on-site visits conducted around the state during the past five years.

By the 1980s, the equipment purchased in the '60s was more than a decade old. In the meantime, significant changes in technology have occurred in all of the vocational fields. Word processing and computer-based accounting have made extensive progress in the occupations for which business education programs are designed. Computer-assisted design and computer-generated graphics are rapidly entering the occupations related to industrial education. Visits to vocational programs at school districts which do not receive federal funds reveal

little use of micro-computers outside of the business education field. Some business education programs are using microcomputers for word processing and accounting. In general, however, secondary vocational education programs are significantly behind in their use of microcomputers and other contemporary technology.

A second breakpoint took place in the 1980s. At this time, there was a significant change in philosophy at the federal level. Funds for education and human services were redirected into other endeavors at the national level. As a result, funding for Job Service was reduced. This reduction has resulted in a noticeable decrease in the number of Job Service personnel who come into high schools or who are available to assist with the placement of high school students. This caused a significant decrease in job placement services. Since placement was one of the weaker links in vocational education programs prior to this change, the reduced level of assistance from Job Service is especially critical.

The vocational areas offered in Wisconsin's secondary schools are primarily traditional ones. These include agriculture, business education, home economics, industrial education, and distributive education. Although it is apparent that Wisconsin's economy is shifting in line with that of the national economy to information and service-based occupations, our secondary vocational programs tend to remain based on a production-oriented economy. Programs in the areas of health, information processing, tourism, and services are seldom found in secondary vocational programs in Wisconsin. In addition, electronics, which is basic to many high tech occupations, is found in only a few secondary vocational programs.

Districts which receive federal vocational education funds represent about two-thirds of all secondary districts in Wisconsin. Vocational education is also offered in schools which do not receive federal vocational education funds. However, programs in these schools tend to lack the intensity and scope of the programs in the funded schools. Vocational education programs in non-funded schools also make significantly less use of advisory committees, follow-up evaluation of graduates, and formal curriculum development activities. Non-funded schools also place less emphasis on the work experience qualifications of their vocational teachers. It appears that there is a significant need to upgrade the scope and quality of vocational programs in secondary schools which do not receive federal vocational education funds.

The content and equipment used in secondary vocational programs need to be closely reviewed by advisory committees, vocational educators, and employers. A process needs to be developed which will keep the content of these programs current with the processes, techniques, and technology used in business and industry. Also, considerable effort must be made to keep vocational teachers current with the technologies in their fields. Current education and job placement programs need to be improved and expanded.

Employer Judgments of Secondary School Performance in Their Work Preparation Role

This narrative is based on the data presented in the Stout study. It does not include a discussion nor an integration of the information presented in the Business and Education Survey which will be analyzed separately in Section Two.

Employers prefer to hire individuals who have had high school vocational education. Employers in Wisconsin indicate that graduates of high school vocational programs are better prepared for their jobs than graduates from other types of high school programs.

It appears that more program emphasis should be given to developing leadership skills and understanding the U.S. economic system. Many times the emphasis on entry-level preparation in high school vocational programs fosters slight emphasis on leadership competencies in vocational courses. However, an employer will often look to the person who has preparation in an area to provide direction for those who have not received such training. Thus, leadership skills are important and should be included to some extent in secondary vocational programs. An improved understanding of the U.S. economic system should be the joint responsibility of the vocational education program and the social studies program in a high school.

Employers are dissatisfied to some degree with the basic math, science, and communication skills of some high school graduates. These criticisms are similar to those raised at the national level. It is impossible to discern whether graduates of vocational programs have greater weaknesses in basic skill areas than those who complete a general program. Those who complete a college preparation program, however, usually feel they have better math skills.

Ability of Secondary School Students to Keep Employment in the First Five Years

Students who have completed a high school vocational education program have a competitive advantage in the labor market. A higher percentage of persons who have completed a high school vocational program have been on the job three or more years. High school non-completers have the poorest employment of any of the groups. The non-completers also have the problem of not having a high school diploma.

Employer Satisfaction

Employers have a high level of satisfaction with persons who have completed a high school vocational program. This is reflected through their preference to hire people who have had high school vocational training rather than those who have not taken this type of preparation. The majority of employers feel that vocational education provides a better preparation for work than the general curriculum. Areas in which employers identify the need for more competency included grammar, spelling, and math. A number of employers also felt that new employees need a more realistic awareness of the nature of work and the type of job they are entering.

Capacity of Secondary Students to Acquire Employment and Succeed in Their Job Experiences After Leaving Secondary School

It is apparent that students who complete a high school vocational education program are more employable. They have a lower unemployment rate, and a

significantly higher percentage of them are employed after leaving high school. Those who have completed some vocational education have a somewhat higher unemployment rate but nowhere near the unemployment rate of youth in general.

Occupational, Job-Related, and Personal Skills Needed for Initial Employment

The proportion of the work force employed in manufacturing industries is declining while the proportion in service and information-based industries and businesses is increasing. Even within the production sector of our economy, the nature of jobs is changing dramatically. Muscle power and manipulative skills are being replaced by sophisticated electronic sensors, computer-based control devices, and thoughtware. Robots are becoming commonplace in production industries. In general, more high-thought content jobs are being created than any other type

Telecommunications is a rapidly growing part of our economy. A variety of new jobs will be created to operate and service international telecommunications systems. With improvements in communications and the dispersion of manufacturing to a variety of developing countries, we are fast becoming a part of a world marketing system. Wisconsin will need to market its products and services throughout the world if it is to retain a viable economy.

Computer applications are growing in all areas. In addition, there is a need for the development and maintenance of a wide spectrum of software to make computers functional in a variety of work settings. Computers and electronics are also being applied to health services, marketing, security systems, and human services.

With the dramatic shifts that are taking place within the U.S. economy, it is apparent that there will also be significant changes in Wisconsin. Wisconsin has an above average proportion of jobs in manufacturing. As manufacturing shifts offshore and computers and other automated devices are fused into manufacturing, the proportion of Wisconsin's labor force in manufacturing will decline in the next decade. Moreover, those jobs remaining will involve different work from that presently found in manufacturing. There will be more need for persons who can program, monitor and service robots than for persons who can operate a welder. There will be increasing need for workers who can operate computers to control the manufacturing process and less need for persons who assemble parts.

It appears that there is a significant need to expand the entrepreneurial skills of Wisconsin residents. Most new jobs are created by new small businesses. As Wisconsin's industrial base changes, there will be opportunities and need for the creation of a number of new businesses and industries. In addition to entrepreneurial skills, workers in these new businesses will need to be flexible, self-directed, and willing to take risks.

Skills and Competencies Which Will Continue to be Important

- Good work habits
- Ability to work with co-workers
- Effective use of supplies, tools, and equipment
- Capacity to accept advice and supervision
- Ability to produce an adequate quantity of work
- Personal qualities, including dependability, courtesy, responsibility, initiative, and leadership

Competencies and Skills Which Will Grow in Importance in the Next Decade

- Additional technical skills will be needed. Employees will need to be able to integrate math, science, and technical processes into their work.
- Almost all workers will need to be able to use a computer effectively in their work.
- Workers will need to be able to draw from more disciplines as the equipment and systems they use become more complex and sophisticated. For example, robotics requires some understanding of computer programming, hydraulics, electronics, and mechanical mechanisms.
- Additional emphasis will be placed on the quality of work performed.
- Additional competency in the basic skill areas will be needed. Persons will need to be able to communicate and use math effectively, and accurately interpret a variety of communications.
- Workers will need the ability to learn new competencies and skills. They will also need to be able to accept change and modify their competencies accordingly.
- Workers will need to have more participatory management skills as business and industry move to involving more people in management.
- A better understanding of the U.S. economic system is needed. Along with this is the need for a better understanding of how business and industry operates.
- Workers will need an improved capability to manage their own time.
- More problem-solving skills will be needed.

Characteristics of Completers, Participants, Non-Participants and Non-Completers

The commonly used statistic for the percentage of students leaving high school in Wisconsin who directly enter the labor market is 50 to 55 percent. In addition, a sizeable proportion of those who go on to college do not complete a degree and enter the labor market. Obviously, a significant proportion of youth in Wisconsin enter the labor market without completing a vocational program. National research shows that students in vocational programs come from families where the father has less educational attainment than fathers of students in academic and general programs. High school vocational students also have lower test scores in reading, vocabulary, and math than students in academic programs.

Vocational programs attract unique students. As noted previously, they do not perform as well on academic tests. They are interested in entering the labor market after high school. With the exception of the science and information-based fields, such as medical technicians, electronics technicians, and secretarial, they have below average interest in physical science and literature. There is also great variation among other vocational fields.

Cooperative education programs and vocational program advisory committees are the two most common types of school, business, and industry partnerships. A number of districts also provide a work-experience program, job shadowing, or experience-based career education.

Even with the increased number of partnerships, there appears to be ample room for improvement.

Student Satisfaction With Work Preparation And Employer Expectations

Graduates are satisfied with employer expectations. The high levels of job satisfaction and satisfaction with preparation programs indicate that, in general, they are satisfied with the work expectations of their employers. It is also evident that graduates who have had vocational education have an edge in the labor market. They are more familiar with job-seeking techniques, more knowledgeable of the tools and equipment used on the job, and feel that their high school preparation was more related to their jobs.

There is a more direct and realistic link between high school vocational programs and graduates' later employment. For persons who need relevance in their educational experiences, have a career choice, and desire to go to work immediately after high school, high school vocational education is very effective and satisfying.

Students in academic and general programs should have more exposure to techniques for seeking and applying for a job, education required for various jobs, and skills required to keep a job. Also, the competencies presented in these programs could be connected with typical tasks and activities in business and industry to give greater relevance.

The data collected appears to reflect the perceptions, needs, and requirements of employers in medium to large firms in the more traditional fields of manufacturing and agriculture. These factors do not negate the value of the study. However, they do suggest that some caution be taken in generalizing the results to all types of occupations in Wisconsin.

Capacity to Acquire Employment

Some inferences can be made related to the employability of graduates, graduates who have vocational education while in high school, and dropouts. Those with high school diplomas are more employable. The process of finding and acquiring a job after high school, however, is not greatly facilitated by placement services provided by the public school system. Co-op work experience as a part of a high school program is much more productive. The most common way of acquiring the first job is through the efforts of the individuals seeking their own employment.

The importance of work experience is evident. However, the lack of appropriate job-seeking competencies, attitudes toward work, appearance, and specific job skills are factors employers and employees identify as being the most frequent reasons recent high school graduates are not employed.

Job Retention

The overall employer satisfaction with persons employed directly out of high school is relatively high.

Poor work habits, low quality of work, and inability to accept advice and supervision are identified by employers as characteristics which most frequently lead recent graduates or dropouts to lose their jobs. Specific job skills, quality of work, and quantity of work are less important. Moreover, the often-criticized area of basic skills receive very little support as a factor for losing a job.

It is apparent that specific job skills help to gain employment; however, once on the job, one's ability to adapt, work effectively with others, and display a positive attitude are more important for retaining the job.

Employer Satisfaction

Employers have some problems in finding high school graduates who are well prepared. It is apparent that employers are dissatisfied with a number of general and basic skill area competencies held by recent employees. However, these competency areas are also ones which are not listed as being as critical in hiring and job retention. Hence, it would appear that while it is important to improve these competency areas, vocational educators cannot lose sight of the more critical competency areas of work habits, attitudes toward work, and specific job skills.

Employee Satisfaction

It is obvious that there is considerable continuity between the employees' high school vocational preparation, high school work experience, and their present jobs. One logical basis for this solid linkage would be satisfaction with the work one is doing.

Employer Perceptions of the Secondary Vocational Education Infrastructure

A large majority of employers feel that it is the responsibility of secondary schools to provide comprehensive vocational education which includes specific job preparation skills. Employers' perceptions of occupational skills include competencies developed by a variety of disciplines in the high school curriculum. Emphasis on adequate human relations, career knowledge, communications, and math skills indicate that vocational education is a total school program.

It is difficult to determine whether there is a growing concern for the adequacy of instruction and tools and equipment used in secondary vocational programs. It has been my perception that, with the recent rapid changes in technology, significant constraints on the school budget, and relatively stable work force in teaching, problems in these areas have been growing. In fact, without improved inservice instruction for vocational teachers, application of relevant vocational curriculum development techniques and infusion of new technology into vocational programs, these programs will rapidly fall behind the competency and skill content of the jobs for which they are preparing students.

Business, Industry, and Education Linkages

We may underestimate the amount of interaction and linkage which occurs between business/industry and vocational education programs. It appears that employers interpret linkages to be more formal arrangements, such as cooperative education. A variety of other interactions between education, business, and industry could also be included in linkages such as the participation in advisory committees, an important linkage which is common throughout the state.

Perceptions of the Future

Changes in technology and the employers' concern for the lack of certain basic skills appear to be the basis for suggested emphases for the next decade. It is interesting that technology, defined as applied science, receives noticeably more emphasis than science and that the area of communications receives high emphasis also.

Based on the large percentage of employees with high school vocational education, it appears that vocational education helps one acquire a job and retain it. Work experience and participation in a co-op work experience are important factors in obtaining a job. There is also a very strong common thread between the type of high school vocational program, work experience, and present job. This would reinforce the appropriateness and value of vocational education.

SECTION III. COMBINED SUMMARY ANALYSIS

Current Role of Secondary Education, Vocational Education, and Work Preparation in Wisconsin

Based on the data presented, it appears that Wisconsin's secondary schools do an adequate job of preparing their students for work. Students who take a vocational program acquire competencies that are important to employers. Persons with vocational education have an edge in the hiring process and tend to have more job stability.

Although high school vocational programs are performing well in preparing young people for jobs, there are some definite problems with the vocational preparation of all students. Only about 15-18 percent of Wisconsin's high school students complete a vocational program. Many do not have access to a vocational program because their school is too small or does not provide an appropriate vocational program. A number of high-ability students are discouraged from enrolling in a vocational program, or their high school program is too crowded to allow enrolling in vocational courses. As a result, many lack general job-seeking skills and the specific occupational competencies needed for acquiring and retaining a job.

Vocational counseling, guidance, and placement services are woefully inadequate in most schools. There is a lack of a systematic assessment program for abilities, competencies, and interests. Counselors spend much of their time on crisis counseling and helping students apply for college and technical schools. Very little emphasis is given to placement.

Although vocational education expanded during the 1970s, there is evidence that the elements needed for a quality vocational education program are in a state of decay. Equipment is aging. Lack of funds has made it impossible to keep pace with technology. For example, few vocational programs have adequate computer power available. The influx of new teachers has slowed, and funds for inservicing continuing teachers have decreased. As a result, course content is becoming less relevant to students and the work place.

Current Role, Needs, and Perceptions of Business and Industry in Wisconsin

A majority of business and industrial firms in Wisconsin think that secondary schools have a mission in providing vocational education to their students. A large majority of these firms will hire high school graduates and dropouts without further preparation. Employers prefer to hire young persons who have had vocational education in high school.

As technology grows more sophisticated, there appears to be a need for expanded use of people from business and industry to provide a part of the instruction for high school vocational students. Also, there would be an opportunity for business and industry to share a part of its equipment for instructional purposes.

Current Needs and Perceptions of the Student and Society

Students need a better career education program, more access to a vocational program while in high school and more job-seeking skills, assistance with placement, and understanding of how business and industry operate within the U.S. economic system.

The importance of work experience is also evident. A large number of employees are working in the same field as their high school work and co-op work experiences and employers report that prior work experience is an important factor in hiring.

Conclusions

The following conclusions are developed based on the data.

- There is a high degree of agreement between the data in the two reports.
- Persons who have completed a high school vocational program are more employable.
- Students who enroll in a vocational education program have career-oriented learning styles.
- Students in small schools and academic programs need more emphasis on vocational programs.
- Vocational counseling and placement services need to be improved.
- Students need to develop a better understanding of the U.S. economic system, how a business functions, and leadership and problem-solving skills.
- Secondary vocational education programs have a growing need for new equipment and course content. Vocational courses need to be changed to reflect the significant changes underway in our economy. Vocational teachers will need to have inservice.
- More linkages between business, industry, and education are needed.

SECTION IV. WHERE SHOULD WE BE GOING?

The dramatic changes taking place and the types of technology used in business, industry, and agriculture suggest that this is the time for a critical review of the purpose and content of secondary vocational programs.

This is also a point in time when the structure and resources of secondary vocational education are decaying. Many of the facilities and much of the equipment in vocational programs were procured in the 1960s and early 1970s. Equipment which is not outdated is in need of an increasing amount of maintenance. Lack of adequate funding has almost stopped the purchase of new

technology for vocational education, home economics, and agriculture classrooms. Business education is making some use of computer technology; however, most programs in this area could use significantly more computing power.

With new equipment and new course content comes the need to provide inservice education to update vocational teachers. With low teacher salaries and declining enrollment, it is unlikely that vocational education can look to updating its program through infusion of newly-trained staff members. It must depend upon present staff members and new linkages with business and industry.

Before rushing into the purchase of new equipment, program revisions, and inservice training, secondary vocational education in Wisconsin needs to take a careful look into the future to determine the implications of emerging skills and new jobs for its programs.

In order to serve better the needs of all the secondary school students, the following changes should be made in the secondary programs:

1. All students should participate in a comprehensive and effective career education program. Adequate access to quality career counseling is essential.

2. At Grades 7, 8, 9 and possibly 10, vocational education should be less discipline oriented and more focused on the basic competencies needed to acquire a job, appropriate work habits, and problem-solving skills.

3. Math, science, and English courses need to be integrated with vocational competencies. Students must have the opportunity to apply concepts in math, science, and English to practical tasks related to jobs in business and industry. Math, science, and English teachers need to know more about how their course content is used in business and industry.

4. Specific skills should be developed at the 12th-grade level. In some instances, it may be necessary to start this training the second semester of the junior year. At this point, vocational courses would become unique. More extensive use of instructors and facilities from business and industry should be made at this level. In addition, the use of cooperative work experience should be expanded to allow students direct access to the latest technology. Extreme caution should be taken in substituting work experience for a cooperative education experience. There is a significant difference in philosophy and outcomes of the two programs. Cooperative education is an educational program. Work experience tends to be more of a social and income program.

5. A comprehensive placement program needs to be developed at the high school level. Since counselors have a difficult time placing appropriate priority on this activity, consideration should be given to assigning this responsibility to vocational teachers.

6. There is a need to investigate the use of new delivery systems for secondary vocational education. Present systems emphasize class-size units and transporting students to vocational experiences. With the rapidly-growing sophistication of modern communication techniques, it is possible to interlink several classrooms with a master teacher in another location.

7. With the availability of new communication techniques, a team approach to vocational instruction should be implemented. A team would include local classroom teachers, experts from business and industry, and lead vocational instructors.

8. With the existing constraints in funding, it will not be possible to replace all of the obsolete or inoperable equipment used in present vocational programs. Priorities must be established for the new equipment which will be purchased. Priority should be given to purchasing microcomputers, software, peripheral devices for these computers and electronics equipment. Equipment that is not relevant to the technology used in business and industry should not be replaced.

9. A massive retraining program will be needed for vocational teachers. They will need to be updated in the technologies related to emerging skills and new occupations in Wisconsin.

10. There is a need for effective linkages between university vocational teacher education departments, the Department of Public Instruction and high school vocational programs.

11. A good data base on secondary vocational education has been established. This data base should be maintained.

INTERPRETIVE ESSAY

by
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SECTION I: STOUT REPORT

Scope and Quality of the Preparation for the World of Work Offered by Wisconsin's Secondary Schools in 1970 and 1980

Vocational education programs of one type or another are almost universal in Wisconsin's secondary schools. How extensive these programs might be varies with the size of the school district. Larger school districts are more likely to provide a full, sequential vocational education program and are more likely to have programs for students with special needs. Larger school districts are also more likely to emphasize job-entry skills than are smaller districts.

In most school districts, counselors are assigned, as one of their many responsibilities, vocational counseling and job placement. The priority attached to these responsibilities is usually low. Most counselors report that they spend much more time advising college-bound students, advising students generally about courses, or advising about personal problems than in helping with job applications or contacting prospective employers.

There have been a variety of state and federally funded programs to assist in training and finding places for students in the job market (Job Service, CETA, etc.), but many of these programs have been curtailed or will cease to exist in the near future. Despite public sentiment in favor of increased vocational educational services, local money has not taken up the slack. At present, both programs and auxiliary services are suffering from cutbacks in both state and federal funding.

Employer complaints about the preparation of high school students for initial employment seem to center on the area of basic skills. Some employers simply screen out those who are deficient in basic skills at the outset; some others have gone so far as to develop their own remedial math and writing skills programs.

Employers report that work experience is important to them in hiring, but data imply that educational credentials are necessary to insure job success. Work

experience in itself is no substitute for academic learning. Cooperative vocational education has a proven track record of success over the past decade as a viable work and experience program.

Within the past five years there has been a reduction of high school districts participating in federally funded vocational programs from 308 in 1977 to 175 in 1982, or a 56 percent reduction. This has been caused by lower levels of federal funding to support vocational education programs and services. The impact of reduced federal support is apparent with curtailment of placement services in nearly every high school formerly served by the Wisconsin Job Service. Schools not using federal funds for vocational education place very little emphasis on providing placement services to graduates entering the world of work immediately after graduation. In addition, non-federally funded vocational programs are less likely to include a senior level cooperative work experience component. Yet unemployment rates for secondary vocational graduates who completed a senior occupational preparation course (capstone) are 5½ percent after graduation and 5 percent three years after graduation. These percentages contrast sharply with a national unemployment rate of over 10 percent and a teenage unemployment rate of 24 percent according to the Department of Labor statistics in July, 1982.

Employer Judgments of Secondary School Performance in Their Work Preparation Role

Employers do not appear to be entirely satisfied with the performance of the secondary school in preparing students for employment; this is especially true for those employers who hire students without high school vocational training. They feel that students are not acquiring the technical skills (science and math) that are becoming increasingly necessary. Many also feel that today's students lack communication skills and are below expected levels in computation skills.

Employers seemed happier with secondary vocational education programs than with secondary education generally. Eight out of ten Wisconsin employers responded that, all else being equal, they would hire a vocational education student over one without such training, and 66 percent said they found vocational education students better prepared than others. But employers also seem to indicate that cooperative education programs are more important than the vocational training students get in the schools. They are, perhaps, more concerned about job experience and the quality of vocational education auxiliary services than about vocational training programs themselves. They also find many students naive about job requirements and see a need for providing more career information.

Ability of Secondary School Students to Keep Employment in the First Five Years

It seems clear from the data presented that capstone students (completers of a total vocational education sequence) are better prepared for employment following graduation from high school than are other graduates and dropouts. They hold jobs longer, get more promotions, and make more money. The superiority of their preparation is probably more in the attitudinal than in the

specifically job-related skills area. More of them have had job experience than other graduates. Though their aptitudes and academic achievement levels are not as high as those of some other graduates, they seem to understand better the world of work and what is expected of them. They also exhibit a higher level of job satisfaction.

Employer Satisfaction

Dropouts are the least desired employees. Their unemployment rate, both in Wisconsin and nationally, is much higher than that of the general population.

While there is an obvious relationship between employer satisfaction and type or lack of secondary school training, many other considerations are involved in employer preference and satisfaction. Some employers are unaware of distinction in high school background; some, following "equity" guidelines, purposely ignore high school training or the lack thereof. Others pay more attention to the type of high school training in deciding who are and who are not desirable employees.

Capacity of Secondary Students to Acquire Employment and Succeed in Their Job Experiences After Leaving Secondary School

Completers of secondary vocational programs have a slightly greater capacity to acquire employment upon graduation than do other high school graduates seeking employment, and they do succeed better in their jobs insofar as success is determined by upward mobility and wages.

Occupational, Job-Related, and Personal Skills Needed For Initial Employment

Students need mastery of basic skills prior to entering into an occupational preparation program. When taught in conjunction with basic skills, occupational skills may provide a motivating force for some students to learn the basic skills. Graduates with multidisciplinary talents will be needed with the advent of robotics, telecommunications, and the computer.

Desirable personal and job-related qualities will also remain constant in the future. Employers will want job applicants who have good work habits and who are willing to produce the quantity of work expected of them. They will continue to value dependability, responsibility, initiative, and judgment. However, the demand for specific occupational skills is and has been changing for some time.

Characteristics of Completers, Participants, Non-Participants and Non-Completers

The data offered for this objective describe employability characteristics largely in terms of academic aptitude and achievement. The findings indicate that students in academic programs have the highest performance of the four groups

on aptitude and achievement tests and the highest grade-point averages. Students in vocational education programs have achievement test scores that are, on the average, significantly lower than those of academic students, but there is great variability in vocational education students' test scores.

Vocational education students, however, are more likely than academic program students to have had some work experience when they graduate from high school, and the work experience they have had is more likely to be related to their career choices.

Though accurate figures are not available, it is estimated that 25 percent of the students in Wisconsin high schools complete a vocational education program. About 21 percent of students enrolled in academic programs take at least one vocational education course as juniors or seniors, and about 45 percent of general education students take one or more vocational education courses. School districts reported that almost half their dropouts had taken some vocational education courses.

Type and Scope of Business, Industry and Education Partnerships

Business and education partnerships do not appear to be extensive in Wisconsin. Less than half the school districts use business and industry representatives on their advisory committees. Eighty percent reported that school district staff do not serve or serve only minimally on community and business advisory committees. About half of Wisconsin school districts are involved in some sort of work experience program.

The types of contacts between the business and industrial community and education are quite extensive. They range from the "information only" to those with contractual provision for service and from the local and informal to the very formal and national in scope. The co-op program is the major type of school-business-industry partnership.

Regardless, schools have not made extensive use of business expertise, and businesspersons have shown only moderate interest in providing collaborative activities.

Results of the survey of Manufacturers Views of Vocational Education (1981) indicate that current extent of partnerships may not accurately reflect the willingness of the business/industrial community to collaborate with schools. About half the employers contacted said they would allow released time for their staff to teach vocational classes, and about a quarter said they would allow their equipment to be used in vocational education programs.

Student Satisfaction With School Work Preparation and Employer Expectations

Eighty percent of capstone graduates surveyed responded that they were satisfied with their high school vocational education programs. Non-completers tended to dislike school, though they were reluctant to say that it was a waste of time or too difficult for them. Completers of vocational education programs

said that they had more knowledge of job-seeking and specific skills than did participants and non-participants. The greatest degree of satisfaction expressed by all three groups of graduates was in "understanding the value and importance of work" and "getting along with others."

When they asked where their high school training could be improved, students indicated that they needed more information regarding career planning and job placement.

SECTION II: BUSINESS AND EDUCATION SURVEY

Summary and Conclusions

Wisconsin business is supportive of vocational education programs and interested in pursuing the possibility of greater linkage with schools in the future.

Overall, Wisconsin vocational education programs are considered adequate by the business community and were rated at least moderately up to date. The exceptions were the career counseling and work experience components. Although new employees did not express dissatisfaction with the school support services, only 24 percent found their first job through a school-related service. The area of counseling services for vocational education students should be more closely studied to determine how to better facilitate vocational guidance and placement services.

The work experience component was also considered lacking by the business community. While Wisconsin employers view work experience as one of the three most critical factors in hiring new employees, only half of the employees had jobs during high school. Only half of those who had work experience indicated that the work experience job was related to their present job. It would seem that the work experience component could be strengthened and improved by developing closer business/education partnerships.

Although vocational education programs received a good rating from the business community, employers also indicated that it is difficult to hire well prepared employees. The areas in which they felt high school applicants were lacking were applying and interviewing skills, attitudes toward work, good appearance, and specific job skills.

With regard to high school students who had been hired, employers rated the products of the high school well on social skills and work attitudes, but not as well on general academic skills. Possibly this deficiency in the basic skills explains the overwhelming positive response by the Wisconsin business community to competency testing in the high schools. Overall, it would seem that employers have a need for employees better trained in the basic skills as well as in job-related skill areas.

Employers as well as employees indicated that the primary source for expanded education after initial hiring was on-the-job training which indicates that many of the skills lacking are job specific.

If schools are going to continue to meet the needs of the business community in the next decade, there will need to be increased emphasis placed on basic skills, divergent thinking processes, computer literacy, oral communication, and a knowledge of technology and the economics of business. The potential well-prepared employee of the 1990s will be a well-rounded, literate individual, aware of technology advances and equipped with the thinking techniques necessary to continue to amass new information.

SECTION III: COMBINED SUMMARY ANALYSIS

Current Role of Secondary Education, Vocational Education, and Work Preparation in Wisconsin

Wisconsin high schools are charged with preparing students for a variety of post-secondary activities. They offer academic courses primarily for the college-bound, general and vocational courses for those who may or may not intend to continue their education beyond high school, and vocational education training for the skills needed for entry-level employment.

To succeed at any level of employment, students must have a sound basic education, as well as viable vocational training. How well Wisconsin's schools and schools throughout the nation are performing both functions is open to some question at the present time.

Vocational education programs serve two broad categories of students: (a) those who intend to seek employment, and (b) those who enroll in vocational classes for general education. Almost all Wisconsin school districts have vocational education programs. Industrial education, business education, and home economics are almost universal. About one-fourth have a health services program and about a quarter have distributive education. The programs vary in quantity with the size of the district though not necessarily in quality.

There is a great variety of types of auxiliary services available to vocational education students, and these services vary greatly in scope and quality from district to district. Some of these services are auxiliary specifically to vocational education, some are more general. Among the more important of these are career counseling and guidance and job placement.

Though these services are important to the success of any vocational education program, they have not kept pace with the expansion that has taken place in vocational education in the past ten years. State and federal money is not as available as it once was, and when forced to make a choice, districts have cut support services. The private sector may come to the rescue in this area, but it hasn't yet.

The major conclusions that can be drawn from the foregoing analysis about the current status of preparation for employment in Wisconsin secondary schools are these:

1. In the past ten or fifteen years, high schools have been somewhat lax in producing students who have acquired basic academic skills, but the process of tightening academic requirements has begun.

2. Thus far, especially in larger districts, vocational education has somewhat kept pace with economic and technological change, but there will be increased need to keep pace with exploding technology and information.

3. Services and programs auxiliary to vocational education programs have not kept up with need, and the outlook for the immediate future is that they will not. Yet, a majority of students express the need for more support services.

4. There is not as much collaboration between business/industry and education as there might be. Participation has remained somewhat the same as in the last decade.

5. The reduction of Federal funding to support vocational education programs and services has resulted in 56 percent fewer schools involved in DPI-endorsed occupational preparation programs. Without adherence to guidelines which support such funding, there is danger that many districts will lose essential elements of a comprehensive vocational education program including advisory committee involvement, cooperative vocational education classes, vocationally licensed teachers, follow-up studies, special and exceptional vocational guidance services, vocational education needs programs, and other essential hallmarks of a bonafide occupational preparation program.

6. About one-third of the smaller districts compared to 60-80 percent of the larger ones offer a full sequential vocational education program. Many school boards have yet to give universal approval to the establishment of viable occupational preparation programs as an educational objective to carry out the goal of assisting all students to meet career and vocational needs.

7. There remains the need for enrollment of more males and females in non-traditional vocational classes. Only limited gains are apparent in the past ten years.

8. High dropout rates persist in the state. Although many attempts have been made to remediate the problem, there does not appear to be a comprehensive model worthy of replication for schools to emulate. There appears to be need for more involvement in vocational education programs by early school leavers, especially in sequential vocational programs.

9. Advances have been made in the state in the last decade to insure equality of opportunity for handicapped students, but the need remains to address more forcefully employment needs of this group.

SECTION IV: WHERE SHOULD WE BE GOING?

Profound changes will be needed by 1990 and 2000 in secondary education and secondary vocational education if public education is to be a positive force in addressing employment needs of students and employers.

In the new age of technology, strong economic forces bear directly on the public schools and challenge school systems to develop programs which will not only contribute toward the self realization of each student but also to the maintenance and development of the economic system. The extent toward which public education is a main force in the development of human capital will determine the maintenance by the public of schools in their present structure.

Data generated by the Parker Project give strong clues to necessary modes of preparing youth for employment in secondary schools in Wisconsin, through perceptions of employers, employees, and educators on the present state of vocational training in secondary schools as well as projected future needs.

Inaction by decision makers, including legislators, top government policy makers, school board members, school officials, and employers in addressing this data will further exacerbate a pervasive inertia which permeates many school systems in the state. Resultant action to incorporate needed changes in vocational education at the secondary school level in Wisconsin will need to be dramatic in terms of priority of need, resources, and involvement of school and community.

By 1990 and the year 2000, vocational education at the secondary school level must be generic and include all staff. No longer can there be a dichotomy of involvement of staff involved in the preparation of youth for employment. The enlarged frame of reference is dictated by the need for graduates in the "Post Industrial Society" to have gained mastery of mathematics, science, language, and basic vocational skills to meet their future needs as entry level technicians.

General education teachers will need to know they are a vital part of generic vocational education which is dependent upon basic studies. Science and mathematics instruction and computer technology should not only be theoretical, but also will have to reflect application of this knowledge to the world of work. Occupational preparation classes will require students who have mastered prerequisite basic academic instruction, in as much as vocational education in the next decade and beyond will be less use of tools and equipment, and more of problem solving and critical thinking.

Curriculum will have to be designed to incorporate the use of computer assisted instruction in order to provide more individualized instruction for all students. Vocational education curriculum will have to be competency-based with the content determined in large part by employers who serve on specific program advisory committees. All students must be computer literate. Concepts, applications, problem solving, and critical thinking will have to be emphasized in all curriculum areas.

Because small businesses have shown the greatest growth nationally and in the state, entrepreneurship skills will have to be included in all occupational preparation programs. Many business owners fail because of their lack of background studies in business operation and management.

Career and vocational guidance services will have to be provided to all students to insure proper career planning, preparation, and placement. The majority of students responding to project questionnaires express a need for more career information, career planning, and placement assistance. Employers feel that students are naive about job requirements and appropriate work habits.

Enrollment of females and males into non-traditional vocational courses will be a necessity in light of changing worker roles.

Employment training for students with special and exceptional educational needs will have to be provided in different settings, using special learning materials designed to address learning disabilities and difficulties. Legislation already mandated will force secondary schools to provide equitable vocational training for handicapped students as parents become litigents in legal disputes where vocational training opportunities are lacking for their children.

All school systems in the state should develop a local career education plan. This plan would address the elements of self, world of work, career planning and preparation, and placement, and it must be K-12 in scope. It should use representatives of the community as partners in the enterprise of preparing students for their next step. Parents, business persons, industrialists, representatives of institutions, community based organizations, government, service clubs, and other organizations should comprise the local career education advisory committee which should give direction to implementation of the local career education plan.

There will be a new image given to vocational education as the entire school and community become involved in employment training. Vocational education will receive equal status among students when they realize that there is not a dichotomy between being enrolled in general education, college preparatory, or occupational preparation courses. When students know that enrollment in vocational classes will require similar prerequisite background to that of traditional college prep courses, there will be no hesitation to enroll in vocational classes.

Articulation efforts between secondary schools and VTAE institutions should be strengthened to ensure continuity of vocational instruction. Basic vocational instruction should be offered at both institutions; however, efforts should be taken to ensure that the next step into a VTAE program has been properly calculated and is productive to the student.

Because of prohibitive costs of up-to-date equipment, contracts between VTAE schools and secondary schools should be expanded, so that magnet programs can be offered to secondary school students, especially in advanced secondary vocational classes. Funds should be provided for shuttle buses to transport students to magnet programs.

Greater expansion of especially cooperative education programs should be provided, in light of employers expressing a strong desire to hire graduates with previous work experience. For non-cooperative work experience programs, related employability instruction should be required before school credit is granted.

With 60 percent or more of Wisconsin high school graduates not presently in pursuit of a baccalaureate degree, the goal of public schools in 1990 and beyond should be 100 percent involvement in occupational preparation programs for all students who will not seek post high school studies.

Secondary schools will continue their largest enrollment plunge ever by 1990, a 19 percent decline in grades 7-12, and 22 percent decline in grades 9-12. Elementary schools in the 1980s could experience growth of up to 20 percent, which will be reflected in enrollments at secondary schools in the 1990s.

In light of these demographics, Parker Project data reveals that larger schools are more likely to provide a full sequential vocational education program with necessary support services. Efforts should be expended to promote regional sharing of facilities among smaller districts, and contracts drawn between secondary schools and VTAE institutions.

It must be emphasized that business will demand some tough reforms and some fast results in return for any alliance with the schools. If these are not forthcoming, business will bypass the present education system and get it done some other way.

Work experience and cooperative education programs should be established with business and industry for all students who will not seek a baccalaureate degree upon graduation from high school. Special and exceptional educational needs students should be included in these placements. Vocational shadow experiences should be provided in both private and public sector worksites as part of exploration of the work world in the community.

School personnel should be invited to work in their area of expertise in local business and industry in the summer to enhance their vocational teaching. Representatives of the business and industrial community should be allowed to teach specific units to utilize their work experience in vocational classes. In some cases, certification requirements should be modified to allow non-certificated representatives of business and industry to teach vocational classes in the absence of qualified teachers.

Volunteers should be used as support personnel or teachers of specific units. These can be non-working parents, tradesmen and women, executives, and retired persons whose employment background lends itself to vocational instruction.

Community alliances, especially in larger urban areas, between representatives of an urban university and school superintendents, similar to those functioning in Milwaukee Cincinnati, and Detroit, can be formed which can provide a focal point for community-wide dialogue (and, hopefully, action) on the role of public education in preparing young people to function effectively in a changing labor market, and on the need for new partnerships to achieve this goal between public education, municipal government, and the private sector.

Change always brings new opportunities. Those who are perceptive enough to see the opportunities, and are bold enough to pursue them, will surely find that change treats them well.

If the past is an indication, Wisconsin can have high hopes that our leaders in the coming decades will be both perceptive and bold.

The awakening to forces at work in the demise of an old epoch, and the recognition of patterns which are in need of change, is the first requisite to overcoming old practices. There have been times in history when looking ahead 20 years has been easy. Change has been slow. But that is not true today. There is evidence all around that everything is changing rapidly, substantially, and in ways that are totally unpredictable.

Present school practices in providing secondary school vocational education must be closely examined and decisions made on what to retain and what to discard. The winds of change blow hard in these modern times, especially so when one considers that economic survival is at stake. There is little question that schools are going to have to address a labor shortage by 1990, along with demands for higher levels of technical ability of youth preparing to enter the work force. Secondary schools will play a significant part in the development of trained workers for a work force of the future which will demand academic and vocational excellence.

AN INTERPRETIVE ESSAY

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SECTION I: STOUT REPORT

Scope and Quality of the Preparation for the World of Work Offered by the Wisconsin Secondary Schools in 1970 and 1980

The special needs programs of the less talented and disadvantaged student seem modest at best in the areas of exploratory introductory career investigation and in basic skill development. Well over half of all secondary students surveyed indicated a need for greater knowledge of careers. The lack of adequate information is due in large part to the time devoted by guidance counselors and vocational coordinators to administrative tasks rather than individual vocational counseling. Perhaps because it is less futile, counselors spend more time helping students select colleges, programs, and courses. Although youth are sufficiently exposed to career direction in the ninth grade, greater emphasis can be promoted in the junior high school.

The report does indicate that high school students learn the most about college/universities and careers from their families and friends rather than from the school counselor. With the tremendous change affecting the "world of jobs" and emergence of varied new occupations, the high school student should not need to rely on obsolete information gained from family and friends. This is important for the guidance counselor who must be aware of the new jobs and how best to prepare for them. The counselor in the urban/industrial school may need to rely more on Comprehensive Employment Training Act/Youth Employment Training Program to prevent dropping-out as well as to incorporate and promote work experience programs.

The Stout data indicates that some employers are concerned about the lack of basic skills of their employees, and some have accordingly begun remedial programs to promote competency. Most employers screen out the less literate and thus deprive them of an opportunity to develop skills the employer wants in his employees. Employer training/educating programs are sound investments. Moreover, employers and potential employees gain from the school work experience program; the employer by acquiring "pre-trained" employees, and the employee who realizes that their academic performance is basic to job success.

The national data and the Stout data affirm the fact that work experience programs directly affect class rank and test scores.

Employer Judgments of Secondary School in the Performance in Their Work Preparation Roles

It is not surprising that most Wisconsin employers (80 percent) prefer to hire pre-trained, experienced employees who have participated in vocational education. It is certainly cost efficient to obtain employees with even a modicum of pre-job learning. That high school students and recent graduates want the schools to emphasize immediate saleable skills has been a frequently voiced declaration over the decades.

Employers of capstone graduates tend to rank them highest on job related skills in the areas of attitudes and positive work ethic. Dependability, courtesy, friendliness, personal appearance, responsibility, cooperation, initiative, and judgment are virtues all employers desire. The expectations of employers are much the same as any other "manager" in society who advocates harmony and mutuality. Indeed, what employers expect of future employees and public education is certainly in concert with the wishes of the public at large.

A substantial number of respondents, 65 percent, favored staff additions to bolster vocational programs while administrators opposed staff additions by a similar margin, 62 percent. It would seem that school administrators, in attempting to justify practices of cost efficiency and accountability to the public, are myopic about their results: widely perceived inadequacy of basic skills acquisition. The public's as well as the teaching profession's pragmatic call for staff increases to meet the selective needs of future workers has been ignored by those administrators possessing the "expert syndrome."

Ability of Secondary School Students to Keep Employment in the First Five Years

Both Wisconsin and National data illustrate the value of involvement in high school vocational education. Length of time on a job and personal success is related to the degree of participation and completion of a program. That completers of programs and participants in programs remain on their post-high school jobs longer and have greater satisfaction is a tribute to the purpose and goals of vocational education.

Employer Satisfaction

Both Wisconsin data and national data agree that the degree of involvement in vocational education is directly related to employer preference and acceptance, although employers do express a desire for graduates with greater language and mathematics facility as well. Wisconsin data provided by the Secondary Vocational Education Evaluation Project (Stout), 1977-81, in addition to supporting the employer practice of employing completers, and ranking vocational instruction from "good" to "very good," also suggests that "leadership in the working role" was the least important quality observed in vocational program

students. Pleasantness of person, that is, "courtesy, friendliness, and personal appearance" are those qualities most highly rated by employers; perhaps because they promote a harmonious work environment. "Dependability, responsibility, and cooperation" are also given high marks on the employers' report card of the ideal worker. Why "leadership" is rated lowest may be a comment about the school's mission to instill that quality, or it may be a statement of the employer's desire to supply its own notion of leadership. This lack of awareness of the real world of work may be consistent with the high school students lack of awareness of school as a work place.

Wisconsin and national data also agree that the non-completer (drop-out) places himself out of the labor pool because he possesses no marketable skills. Clearly, employers are only moderately satisfied with current vocational education, and must, therefore, take a greater role in its improvement.

Capacity of Secondary Students to Acquire Employment and Succeed in their Job Experiences After Leaving Secondary School

Restating the current socio-economic reality, completers of vocational programs have the highest percent of employment compared to participants and non-participants. Moreover they are promoted more often and receive the highest wages compared to their non-completer or non-participant cohorts. This affirms the common sense notion that knowledge/skills are valuable commodities. Wisconsin data states that capstone graduates not only receive the highest percent of promotions, but also the greatest percent of lateral job movement. Unfortunately, females whether capstone or sequence graduates are compensated at a rate of 20-33 percent lower than males in similar jobs. Not only must employers play a more important role in fostering significant vocational programs in the schools, they must also make efforts to evaluate the wages of females when compared to those of males.

Occupational, Job Related, and Personal Skills Needed for Initial Employment

It is a given maxim in the formal study of education that the first principles of learning must be mastered as a foundation for specialized learning. So too would this maxim apply to vocational earning. Proficiency in giving and receiving communication as well as computation knowledge are essentials that employers insist upon from their employees. Much blue collar work will be done by robots, especially in heavy industry. Clearly "high thought" services in high technology industries will increase the demand for skills in computers, telecommunications, robotics, and automation. These new services will greatly help to decrease unionized labor costs through attrition. However, it remains to be seen whether the new workers in high thought/high tech jobs themselves will organize themselves collectively to serve their vested interests as did their earlier blue-collar counterparts.

Wisconsin employers, as well as national employers, have made it imperative that successful vocational education and job procurement is contingent upon mastery of literacy and computation skills. Trigonometry, calculus, understanding technical writing, and the ability to lead group discussions and/or

speaking before a group, are assets much desired by employers. Curiously, employers rely upon a graduate's high school academic record more than recommendations of previous employers. Nationally, surveys indicate that employers not only expect job candidates to know how to interview, know how to look for information about a job, but also how to understand wages and deductions on pay check stubs. This later preference might be reinforced in employee orientation programs. By 1990, the new employee will also need to know about the operations of business/industry and how participatory management functions. These needs certainly have implications for the high school curriculum in terms of courses or units in economics, labor history/law, cooperatives, etc. The schools will need more fully to teach about employee collective bargaining and contract administration as part of the vocational curriculum in order that participatory management be most effective.

Characteristics of Completers, Participants, Non-Participants and Non-Completers

For the past two decades, educators in Wisconsin and in the nation have shown great alarm about the increasing number of students not completing a high school program. The causes of dropping-out are multiple, but certainly among them is a pessimism about the value and relevancy of high school learning. Many students doubted the importance of the high school experience in obtaining employment. With continued economic stagflation prevading our society, high school students may be undergoing a re-evaluation of the importance of high school. Perhaps this accounts for the slight decrease in the statewide total of dropouts of 4.6 percent in 1979-80 to 4.1 percent in 1980-81. With a paucity of jobs, primarily in the urban/industrial counties, youth has come to realize that staying in school and making the best of it is preferable to being unemployed and without marketable skills. The pressure to survive and compete, almost always accepted and accomplished by those of higher soci-economic status, may also be spurring youngsters of lower status.

National data confirms Wisconsin studies of students in high school programs. Students in vocational programs scored significantly lower on achievement and ability tests than students in academic programs, and about the same as students enrolled in the general program. To teachers/educators this data is a general affirmation of some long held assumptions. The more complex and sophisticated the job, the greater the computation and literacy skills that are needed.

Type and Scope of Business, Industry and Education Partnerships

The partnership between the schools and business/industry seemingly involves an active partner, the schools, and a dormant partner, business/industry. The schools from the late 1960s on, with the establishment of the post of local vocational education coordinator, (LVEC) have implemented business/industry advisory committees. These committees have helped, and will need to help more abundantly in suggesting equipment, reviewing curriculum, helping with public relations, and suggesting course offerings. The great majority of high school LVECs have maintained contact with Job Service, organized labor, and the State Apprenticeship Division. Vocational students, themselves in capstone courses, have indicated a strong desire for more employer talks, more field trips to

business/industry, and more films and film strips about occupations. Despite this activity and need, schools (48 percent) do not use or use slightly business and industry people on their curriculum advisory committees. Though 56 percent of the school districts offer a cooperative work experience program with firms in the community, the co-op effort should be greatly expanded. Greater effort must be made by employers to involve school staff on business development committees, to provide company instructors in the vocational courses, and to provide facilities for instructional labs. In Wisconsin, greater mutual effort by these vocational partners must be made.

National data also indicates that the partnership must be strengthened. The schools must continue to offer stronger career counseling and job placement, to design rigid program standards so that employers know that completers are ready for employment, and to improve language facility of limited English speaking students. On the other hand, employers must strive to allow greater work experiences for students, vocational teachers, and guidance counselors, as well as to facilitate release time for company instructors and the loan of equipment.

Student Satisfaction With Work Preparation And Employer Expectations

Overall, students involved in vocational learning were more likely to express greatest satisfaction (80-88 percent) with their program than those who did not complete or take a vocational program. Completers of vocational programs reported that their career preparation was most effective in understanding the value of work, getting along with others, and learning job seeking skills. Somewhat curious is the response of high school non-completers to queries about the high school experience. Although most did not think school was difficult nor a waste of time, they tended to dislike it. National surveys correlate with Wisconsin studies; both illustrate that female and male completers were "satisfied" to "very satisfied" with their job as a whole, the job's importance and challenge, and their opportunity to use past training and education.

Summary of All Objectives Combined

Wisconsin schools do offer adequate vocational instruction with competent staffs, using sufficient quality materials and supplies. The number of schools offering full sequential courses in home economics careers, health occupations, industrial education, marketing and distributive education, and special needs introduction is satisfactory in a general sense. As in the past, vocational students desire more aid from the guidance counselors in gaining a greater knowledge about potential careers and jobs in the community. Counselors probably spend too much time serving the college bound and not enough time aiding vocational students in discovering apprenticeship programs, and in contacting employers in the community. Few Wisconsin schools provide extensive job placement services or intensive and consistent vocational counseling with individuals and/or groups. Most direction about career opportunities comes from families, relatives, and peers, rather than from counselors.

Employers do find graduates of capstone programs preferable to sequence or general program graduates. Employers are concerned less about specific job-

related skills in their newly hired employees than they are about general personal, social, and attitudinal qualities. The public at large has similar expectations of the school's graduates. Generally, both the public and employers feel that instruction in the "basics" is inadequate and that hiring additional teachers would help remedy this deficiency. School administrators feel exactly the opposite. Despite the apparent mediocrity of vocational education, completers and participants do illustrate greater job stability and job satisfaction with their new jobs than academic and general program graduates. Moreover, completers and participants are inclined to enroll in post-secondary vocational programs to augment their skills. They are promoted more often and also receive the highest wages.

Employers' expectations of employees are not confined to minimal literacy/computational skills and a positive work ethic, but also include greater under standing of "high thought" applications, the operations of business and industry, and participatory management. The perameters of "high thought" applications and participatory management need clearer definition, however. The expectations of employers clearly indicate a desire for improved vocational instruction. Conversely, students, counselors, and school administrators require greater involvement from the business/industrial community in defining those jobs of the future, not only for those possessing extensive abstract skills, but also for those workers with marginal skills.

Conclusions

The data of the Stout report does have implications for secondary education, vocational education, the secondary student, and business-education partnerships.

For secondary education it is clear that employers will continue to insist upon an improved minimal competency in basic language and computational skills. This may entail the establishment of some sort of competency-based testing for graduation by the school districts. Such a program possesses various complications: what to do with those students who do not pass competency testing, the degree of difficulty of such testing, its validity and reliability, what agency (state or local) will administer the test, and whether the test is voluntary or mandatory.

However, it has long been felt by the teaching profession that preventative measures such as reduced class size to afford greater individual learning, abundant teaching materials and aids, and vastly improved teacher status and salaries to attract top candidates to the profession can be instrumental in increasing literacy. The merit of these proposals has long been debated, but it has been often asserted that a craftsman performs best with superior tools under optimal circumstances. Financial support for maximizing teaching and learning has not been an honest priority of school administrators who may have misplaced emphasis on non-curricular facets of the high school experience. Administrators need to admit honestly that one of the very probable reasons why learning of the basic skills has diminished is because teachers of the 80s need more time with fewer students and need more of the best materials for learning.

The secondary curriculum could devote, in various courses or units, a greater understanding of the "value of work," not only in the production of goods jobs, but also in the ever increasing human service sector. Those students contemplating service sector jobs must also be made aware that they are traditionally the lowest paid of jobs and most often performed by women. Methods of improving this low status must be debated in the school curriculum. A recent Washington Post article reported that,

> "Neither will the high-tech transformation of existing jobs create demand for increasingly sophisticated work skills. Secretaries will work with word processing equipment; bookkeepers will use computerized financial spread sheets; purchasing and inventory clerks will apply computerized record systems; mechanics will use diagnostic equipment employing mini-computers; telephone operators will rely on computerized directories."

his awareness should be incorporated into studies of how the low-skilled, high-tech employee can cope with the stress and tediousness of simplified routine work which minimizes worker's individuality and judgment.

The secondary student must be stimulated to make career goals and directions more systematically and at an earlier age. He/she must assume greater responsibility about serious study and put recreational/leisure pursuits in proper balance with academic study. Perhaps part of the picture of the decline of literacy skills and aptitudes has to do with the attitude that one need not necessarily be literate to succeed or to survive. The student anxious to succeed does understand that sustained effort in [illegible] course of study is necessary.

The partnership of education with business must be strengthened by a mutual reliance and involvement with one another. The work experience cooperative benefits the student with realistic work situations and the employers with inexpensive labor. To increase its participation, business should continue efforts to release personnel to teach in the schools and to allow greater access for young people to use equipment in business and industry. Not only through greater provision of personnel and equipment, but also through business input into course content and through a clear definition and acceptance of participatory management, can business and industry foster a closer relationship.

SECTION II: BUSINESS AND EDUCATION SURVEY

As expected, smaller businesses employ fewer recent grads and drop-outs than larger businesses. Business in general displays strong agreement that the schools must provide comprehensive vocational instruction leading to improved competencies and job preparation. However, about 60 percent of the employers surveyed had no affiliation with the schools to foster improved training. Recent graduates of vocational programs do show increased occupational preparation and job stability.

Employers stress that school instruction must improve the teaching and learning of basic communication and computation skills and the learning of applied science, business economics, and computer knowledge. A lack of these skills,

however, is not usually the reason why recent graduates do not earn initial employment. They are most unlikely to gain initial employment because of unsatisfactory interviewing skills, work attitudes, and appearance. They are likely to lose jobs because of a lack of dependability, promptness, and work habits. Moreover, most graduates obtain a job because they possess a diploma and/or display particular job-related skills, rather than involvement and grades in specific academic courses.

Most graduates obtain their present jobs through their own efforts, or through the efforts of relatives or friends, rather than through the efforts of the schools. Those employees involved in school vocational programs were consistently more satisfied with their present jobs. About half of the employees surveyed indicated that their present jobs were related to their high school vocational program.

SECTION III: COMBINED SUMMARY ANALYSIS

Current Role of Secondary Education, Vocational Education and Work Preparation in Wisconsin

Vocational programs in Wisconsin show progressive improvement in meeting the needs of both students and employers. Improvement is moderate in federally funded programs and less in nonfederally funded programs. Most vocational students acknowledge the value of their vocational education experience, but also recognize the need for improved and comprehensive career guidance program. A majority of graduates learn about occupations from relatives and friends, and likewise obtain their jobs through relatives and friends and/or through their own efforts. Both students and high school guidance counselors recognize the need to devote more time and effort to career investigation and job placement. Guidance counselors and students are aware that work experience has a propitious effect on the student and his/her academic performance.

Employers in both the private and public sector prefer graduates of vocational programs over those graduates from general high school programs. Employers have recognized that completers of vocational programs with capstone courses display higher degrees of positive work attitude, responsibility, cooperation, and dependability; they have greater job satisfaction; and remain on the job longer. Employers strongly believe that greater emphasis and improved instruction in basic skills, technology, and the economics of business must be offered by the schools. Employers strongly believe in voluntary competency testing by the schools to insure that minimal competencies are learned. With the decline of production jobs, and the growth of service occupations and "high-tech" careers, employers are confused about the number of new jobs and the degree of training for the new jobs. Some have asserted that high-tech industries will create many more lower skilled jobs than high skilled jobs which had been anticipated. The public is minimally satisfied with general secondary and vocational education, and recognizes that staff increases of guidance counselors and vocational teachers are some of the ways of improving instruction and counseling. Even though the general public and recent vocational graduates detect some deficiencies in the vocational program and secondary education, school administrators are reluctant to admit the deficiencies.

Conclusions

Listed as follows, but not necessarily in order of importance, are some conclusions about current secondary education and vocational education.

1. Minimal time is allowed for comprehensive vocational counseling by secondary guidance counselors.

2. Secondary schools and VTAE systems do not engage in effective release time/advance placement programs to allow high school students time to enroll in post-secondary vocational programs.

3. Secondary school students spend less time mastering basic skills because they are involved in too many extra-curricular, after school activities, including part-time jobs.

4. Staffing needs are meager for guidance counselors and vocational teachers.

5. High school graduation based upon a voluntary competency-based testing program is in increased demand by employers and post-secondary schools.

6. Employers are minimally involved in providing for the use of personnel, equipment and facilities in the secondary schools to augment their programs.

7. Minorities and special needs students experienced some success in Comprehensive Employment Training Act/Youth Employment Training Programs.

8. Graduates of vocational programs performed well in their total secondary experience and made the transition to the world of work satisfactorily.

9. The number of "high tech/high thought" jobs needed may be far less than the number of low-skilled jobs created by advanced technology.

10. Service jobs, rather than production jobs, will experience the greatest increase.

11. Service jobs which employ higher numbers of women and minorities pay less than production jobs.

SECTION IV: WHERE SHOULD WE BE GOING?

The secondary school vocational curriculum for the future must expand in the health services occupations and distributive education programs in order to meet the transition to service careers in Wisconsin and in the nation. The traditional vocational programs in business education, industrial arts, and agri-businesses must implement the advancement of applied technology into their curriculum,

especially those of robotics, computers, tele-communications, cybernetics, and automation. To effect the maximum change in vocational education to meet the business needs for skilled and semi-skilled workers, vocational teachers must be able to individualize instruction in classes where the pupil-teacher ratio is optimal, perhaps with a ratio of 15 to 1. Vocational teaching as a career, as well as teaching in general, must attract the ablest of candidates through much improved compensation and status recognition.

High schools students must be more thoroughly acclimated and prepared for career choices within their first year by a guidance staff able and willing to devote much more time to vocational channeling, job and apprenticeship procurement, and advanced placement of high aptitude students into VTAE programs. Greater awareness of careers and occupations must be promoted by guidance counselors in junior high and middle school. With an increased emphasis on career counseling and placement will come the need for increased guidance staffing. Guidance counselors and LVECs will need to refine their skills, knowledge, and values about occupations to promote the dignity and esteem of being a worker and in the creative value in work.

Much greater coordination of the secondary curriculum scope and sequence must be effected between the vocational, general, and academic/college prep programs to reinforce and expand basic skills and concepts of integrated learning. The general public's desire to increase graduation requirements and to implement voluntary competency testing, although controversial, is a valid step. To require four years of English, three years of social studies, and two or two and one-half years of science and of math as the basic conceptual/skill core of the high school program may conflict with the vocational program, but conflict should be minimal and may augment the quality of both vocational and non-vocational scope and sequence of courses for vocational students. Although all high school students need even greater remediation and development of writing, speaking, and computational skills, vocational students may need to take courses which stress these skills more than courses with advanced concepts. Many school districts will face the need to revitalize their curricula to allow for a sort of integrated tracking system. Some schools in the state do allow for differentiated courses for the vocational student and the college bound. In addition, school districts must acknowledge that substantial increases of requirements will affect the length of time taken to graduate; it is conceivable that students of the 1990s and 2000s will graduate after four and one-half or five years of school. Students may be required to attend summer school and evening classes. School districts may be forced to maximize the use of its facilities and staff to allow for increased requirements and expanded time for class instruction.

Part of the core program (English, social studies, math, and science), perhaps best located in social studies, should be a course or unit devoted to business economics and should deal with such concepts as the nature of capitalism, recession, inflation and depression. A corollary to such a course or unit should be one in social economics in which the history of U.S. labor/management relations is analyzed and compared to that of other nations. This course would also view the philosophy and psychology of the work ethic and the value of work, and the role of the worker as it relates to concepts of responsibility, dedication, and collective action. The study of various models of worker and manager relations including participatory management and unionism would also be scrutinized. Within this course or unit the emphasis would also be placed on

understanding how to cope with stress, boredom, and tediousness of new technical jobs; increased worker involvement in drugs and alcohol and a resulting decreased productivity and quality of work would also be studied. The depth and content of such a business and/or socio-economics course would need great input from the business community and the DPI.

It is essential that Wisconsin's businesses and industries take a much greater role in refining and defining with some degree of consistency its expectations for the schools and its graduates. Employers do expect their employees to have a reasonable proficiency in the basic skills and strongly advocate competency-based testing. On the other hand, employers seem to put more emphasis on appearance, poise, and deportment in the interviewing process than on a record of the acquisition of basic skills. Moreover, it is not a lack of basic skills which is the usual cause for employee termination, but a lack of positive attitude, dependability, promptness, and accuracy. The schools themselves have experienced difficulty in promoting these values. This difficulty, of course, is a statement about students' perception of the nature of schooling and their social environment which puts a premium on leisure, recreation, and relaxation. How these values are best inculcated is perhaps the number one challenge of a business and school partnership.

Greater involvement of employee with employer in decision making and goal setting must be encouraged. Moreover, students, teachers, and administrators must practice democratic participatory management; one that is initiated in the early grades and maintained through secondary schooling. Youth who are conditioned to active involvement and who accept the responsibilities of involvement can become the motivated, dependable, prompt, and efficient employees. It is no accident that the world's most successful industrial nations, West Germany, Sweden, and Japan, create the highest GNP, illustrate the greatest worker satisfaction, provide the most comprehensive social welfare programs, and the greatest worker involvement in management. To actuate joint management, youth must be motivated by teachers, administrators and boards of education who themselves have faith in the process and truly practice it. Teachers must genuinely have greater actual input into operations of the schools. Much teacher dissatisfaction is not only a result of their meager financial compensation and the low social status given to the teaching profession, but also because participatory management has not truly been afforded to them.

Employers have conducted on-the-job training for their new employees emphasizing the required technical skills, work attitudes, problem solving, and general business operations. This training should be intensified and expanded to meet the changes promoted by technology. Regular and continued inservice or on-the-job training dealing with both skills competencies and work attitude is an aspect of participatory management itself. Employers may need to supplement or remediate the basic skills of their employees with a staff of their own. It is not realistic to expect the schools in their present state of mediocrity to graduate masters of literacy and computation. In addition, employers may not only need to maintain their own instructional staffs, but also allow for release time of their personnel to teach in the vocational programs in the high schools and VTAE systms, and to permit the schools to use some of its faciities and equipment. Employers should be encouraged to strengthen their partnership with the schools by being given some sort of tax credit for the use of their facilities, equipment, and staff. They should be involved in awarding scholarships for vocational

students and other forms of recognition for worthy students. They should take a much more active role in curriculum development in the schools, and vitalize the work experience cooperative.

At the risk of appearing naively idealistic, I do want to assert that improvements in vocational education and secondary education can be realized, but it will be at a cost of time, effort, and money to government, business, the schools, and the public. Most improvement requires funding, and at this time of austerity and stagnation, this may be viewed as unproductive and superfluous. However, to allow for no initiative, I believe, is to permit continued decline. The success of business is, indeed, dependent upon successful schools producing competent, creative people. How to garner the requisite funds is a decision to be made by the representatives on the capitol hills of Wisconsin and the nation and in Phase II of the Parker Project.